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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BATURAY, ALICIA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/804,400	BAHL, PRADEEP	
	Examiner	Art Unit	
	Alicia Baturay	2446	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25 and 27-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25 and 27-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to a request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), which was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 March 2009 has been entered.

2. Claims 1-7, 11, 12, 14, 21, 22, 24 and 25 were amended.

3. Claim 26 was cancelled.

4. Claims 1-25 and 27-30 are pending in this Office Action.

Response to Amendment

5. The rejection is respectfully maintained as set forth in the last Office Action mailed on 24 October 2008. Applicant's arguments with respect to claims 1-25 and 27-30 have been fully considered but they are not persuasive and the old rejection maintained.

6. Applicant's arguments filed 24 March 2009 have been fully considered, but they are not persuasive for the reasons set forth below.

7. ***Applicant Argues:*** One of ordinary skill in the art would have no reason to combine Ishiyama and Kim, as Ishiyama explicitly teaches against using home agents and Kim explicitly teaches using home agents.

8. ***In Response:*** The examiner respectfully submits that independent claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama and further in view of Kim. Ishiyama is directed to a mobile communication scheme that enables easy change of a connected location of a mobile computer on the IP network when the mobile computer leaves its home network (see Abstract). Kim is directed to a method in a mobile Internet Protocol (IP) system where a mobile host being part of a home network moves over the Internet and obtains a changed point of attachment to the Internet (see Abstract). Therefore both Ishiyama and Kim are analogous art as they are directed toward the same field of endeavor of allowing mobile nodes to continue connections despite a change of network.

Ishiyama teaches a method for maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, without using a home agent. Ishiyama does not teach a method of ensuring the second address will not be cached within non-authoritative name servers. Kim teaches the time-to-live caching period is set to 0 to prevent the domain name server from caching the resource record. Because both Ishiyama and Kim teach methods for continued connectivity of a mobile node once it leaves its home network and joins a different network, it would have been obvious to one skilled in the art to substitute one method for the other to achieve the predictable results of enabling a mobile node to remain connected to other nodes despite a network change.

9. ***Applicant Argues:*** Comstock teaches using home agents and foreign agents, while Ishiyama's communication scheme explicitly teaches against the use of home agents. One of skill in the art would have no reason to combine these incompatible references.

10. ***In Response:*** The examiner respectfully submits that independent claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Kim and further in view of Comstock. Ishiyama is directed to a mobile communication scheme that enables easy change of a connected location of a mobile computer on the IP network when the mobile computer leaves its home network (see Abstract). Kim is directed to a method in a mobile Internet Protocol (IP) system where a mobile host being part of a home network moves over the Internet and obtains a changed point of attachment to the Internet (see Abstract). Comstock is directed to a Mobile IP scheme in which a mobile node is originally attached at a home network and the Mobile IP binding information is used to obtain the address of a foreign network to which the mobile node is now attached (see Abstract). Therefore Ishiyama, Kim and Comstock are analogous art as they are directed toward the same field of endeavor of allowing mobile nodes to continue connections despite a change of network.

Ishiyama teaches a method for maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, without using a home agent. Ishiyama does not teach a method of ensuring the second address will not be cached within non-authoritative name servers. Kim teaches the time-to-live caching period is set to 0 to prevent the domain name server from caching the resource record. The combination of Ishiyama and Kim does not explicitly teach a tunnel

between a mobile node and a virtual private network server. Comstock teaches encapsulated payloads that are routed between tunnel endpoints over the intermediate network or internetwork. Because Ishiyama, Kim and Comstock teach methods for continued connectivity of a mobile node once it leaves its home network and joins a different network, it would have been obvious to one skilled in the art to substitute one method for the other to achieve the predictable results of enabling a mobile node to remain connected to other nodes despite a network change.

11. ***Applicant Argues:*** Comstock fails to teach or suggest "an address of the virtual private network server being specified by the policy" and "receiving, from the virtual private network server, the second address for the mobile node," as recited in claim 21.

In Response: The examiner respectfully submits that Comstock teaches establishing a virtual private network tunnel connection through a virtual private network server (a layer-2 tunnel is created between an L2TP network server (LNS) in the home network and an L2TP Access Controller (LAC) in the foreign network – see Comstock, col. 4, lines 46 – 65), an address of the virtual private network server being specified by the policy (network routing tables will route the destination packet to the home agent in the home network according to Mobile IP. The home agent encapsulates the destination packet to create packet 107, by adding an IP header that includes the IP address of the home agent as the IP a source address and the care-of address as the destination IP address. The home agent then sends the packet

to the foreign agent via a link which represents an IP network that is intermediate between the home network and the foreign network and through which the packet tunnels – see Comstock, col. 5, lines 8-37); receiving, from the virtual private network server, the second address for the mobile node (when terminating packets destined for a mobile node are received by a home network for the mobile node, the Mobile IP binding is used to obtain a forwarding or "care-of" address that identifies a foreign network to which the mobile node is attached. A layer-2 tunnel in accordance with L2TP is created between the home network and the foreign network – see Comstock, col. 4, lines 46 – 65). This renders the rejection proper, and thus the rejection stands.

12. ***Applicant Argues:*** Comstock teaches a mobile node receiving an address from a home network. In contrast, Applicant's claim 21 recites a mobile node receiving an address from a VPN server.

In Response: The examiner respectfully submits that Comstock teaches a mobile node (home network can assign a private IP address to the mobile node - Comstock, col. 6, lines 18-19) receiving an address from a VPN server (home agent is a router in the home network that performs the Mobile IP home agent functionality – see Comstock, col. 2, lines 11-12). This renders the rejection proper, and thus the rejection stands.

13. ***Applicant Argues:*** Ishiyama fails to teach or suggest the "determining" limitation in Applicant's claim 21 because Ishiyama does not teach a policy being maintained by the mobile node and/or determining, via the policy, that the mobile node is outside a security domain of a home network of the mobile node.

In Response: The examiner respectfully submits that Ishiyama teaches determining, via a policy maintained by the mobile node, that the mobile node is located outside a security domain of a home network of the mobile node (when the current location address of the mobile computer is changed to a new address, the mobile computer notifies the change of the own current location address to the correspondent by setting the new current location address as the source address of the outer packet of the encapsulated packet – see Ishiyama, col. 6, lines 13-18). Notifying when the current location address is changed can be considered a policy. The term "policy" is given the broadest reasonable interpretation.

USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550- 551 (CCPA 1969). See also *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms

reasonably allow.... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed.... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process."). See MPEP 2106 (II)C.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 1, 2, 8, 10-12, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama et al. (U.S. 6,904,466) and further in view of Kim (U.S. 7,116,654).

Ishiyama teaches the invention substantially as claimed including the disclosed mobile communication scheme enables easy change of a connected location of a mobile computer on the IP network when the mobile computer leaves its home network, without requiring the use of a home agent, while providing a sufficient level of security. The mobile computer

transmits a packet from a visited site network to a correspondent by encapsulating an inner packet having a home address as an original source address within an outer packet having a current location address as a source address. The correspondent which received this encapsulated packet recognizes the source addresses of the outer and inner packets of the encapsulated packet as the current location address and the home address of the mobile computer, respectively, so that the correspondent can transmit a packet to the mobile computer thereafter by encapsulating an inner packet having the home address as a final destination address within an outer packet having the current location address as a destination address (see Abstract).

16. With respect to claim 1, Ishiyama teaches a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

17. With respect to claim 2, Ishiyama teaches the invention described in claim 1, including the method of further comprising performing, by the mobile node, the steps of:

Prior to registering the second address, connecting to a new network location; receiving, in response to the connecting and prior to the registering, the second address differing from the first address previously registered with the authoritative name server (Ishiyama, col. 9, lines 21-22); and issuing, subsequent to registering the second address, a first binding update to a correspondent node to which a connection was previously created while the mobile node resided at the first address, wherein a specified destination address for the first binding update specifies a first correspondent node address (Ishiyama, col. 9, line 21-26).

18. With respect to claim 8, Ishiyama teaches the invention described in claim 1, including a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without

using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35) and the method wherein specifying the supplementary value comprises specifying a time-to-live (TTL) value of zero (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

19. With respect to claim 10, Ishiyama teaches the invention described in claim 1, including the method wherein the authoritative name server is a domain name system (DNS) server (Ishiyama, col. 8, lines 9-14).

20. Claims 11, 12, 18 and 20 do not teach or define any new limitations above claims 1, 2, 8 and 10 and therefore are rejected for similar reasons.

21. Claims 3, 6, 7, 13, 16, 17, 21-23, 27, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Kim and further in view of Comstock (U.S. 6,452,920).

22. With respect to claim 3, Ishiyama teaches the invention described in claim 2, including a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim do not teach the use of a binding update acknowledgement from the correspondent node.

However, Comstock teaches the method further comprising the steps of: receiving, by the mobile node, a binding update acknowledgement from the correspondent node; and restoring a disrupted connection between the mobile node and correspondent node (Comstock, col. 3, lines 28-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a binding update. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

23. With respect to claim 6, Ishiyama teaches the invention described in claim 2, including a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim does not explicitly teach a tunnel between a mobile node and a virtual private network server.

However, Comstock teaches the method wherein the new network location resides outside a home network of the mobile node, and wherein the method comprises the further step of: establishing a tunnel connection between the mobile node and a virtual private network server; and receiving, by the mobile node, a local network address specified by the virtual private network server, wherein the second address corresponds to the local network address (Comstock, col. 3, lines 28-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a binding update. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

24. With respect to claim 7, Ishiyama teaches the invention described in claim 2, including a method for facilitating maintaining connectivity between a mobile network node and a

correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim do not teach the use of a binding update.

However, Comstock teaches the method further comprising the step of: initiating, by the mobile node, a binding connection through a rendezvous server residing outside the home network (Comstock, col. 3, lines 28-39).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to

enable the use of a binding update. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

25. With respect to claim 21, Ishiyama teaches a mobile network node facilitating maintaining connectivity with a correspondent node after changing network addresses, the mobile network node including a communications protocol stack comprising computer-executable instructions for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the computer-executable instructions facilitating performing, by the mobile node, the steps of: determining, via a policy maintained by the mobile node, that the mobile node is located outside a security domain of a home network of the mobile node (Ishiyama, col. 6, lines 13-18); registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the

current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim does not explicitly teach a tunnel between a mobile node and a virtual private network server.

However, Comstock teaches establishing a virtual private network tunnel connection through a virtual private network server (Comstock, col. 4, lines 46-65), an address of the virtual private network server being specified by the policy (Comstock, col. 5, lines 8-37); receiving, from the virtual private network server (Comstock, col. 2, lines 11-12), the second address for the mobile node (Comstock, col. 4, lines 46-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a tunnel between a mobile node and a virtual private network server. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

26. With respect to claim 22, Ishiyama teaches the invention described in claim 23, including the method of further comprising the steps performed by the mobile node of:

Prior to establishing the virtual private network tunnel connection, connecting to a new network location (Ishiyama, col. 9, line 21-22); and issuing, subsequent to registering the second address, a first binding update to a correspondent node to which a connection was previously created while the mobile node resided at the first address, wherein a specified

destination address for the first binding update specifies a first correspondent node address (Ishiyama, col. 9, line 21-26).

27. With respect to claim 28, Ishiyama teaches the invention described in claim 21, including a mobile network node facilitating maintaining connectivity with a correspondent node after changing network addresses, the mobile network node including a communications protocol stack comprising computer-executable instructions for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the computer-executable instructions facilitating performing, by the mobile node, the steps of: determining, via a policy maintained by the mobile node, that the mobile node is located outside a security domain of a home network of the mobile node (Ishiyama, col. 6, lines 13-18); registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35) and the mobile network node wherein specifying the supplementary value comprises specifying a time-to-live (TTL) value of zero (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim does not explicitly teach a tunnel between a mobile node and a virtual private network server.

However, Comstock teaches establishing a virtual private network tunnel connection through a virtual private network server (Comstock, col. 4, lines 46-65), an address of the virtual private network server being specified by the policy (Comstock, col. 5, lines 8-37); receiving, from the virtual private network server (Comstock, col. 2, lines 11-12), the second address for the mobile node (Comstock, col. 4, lines 46-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a tunnel between a mobile node and a virtual private network server. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

28. With respect to claim 30, Ishiyama teaches the invention described in claim 21, including the method wherein the authoritative name server is a domain name system (DNS) server (Ishiyama, col. 8, lines 9-14).

29. Claims 13, 16, 17, 23 and 27 do not teach or define any new limitations above claims 3, 6 and 7 and therefore are rejected for similar reasons.

30. Claims 4, 14 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Kim in view of Comstock and further in view of Kempf et al. (U.S. 2003/0211842).

31. With respect to claim 4, Ishiyama teaches the invention described in claim 2, including a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim do not teach the use of a binding update.

However, Comstock teaches the method further comprising: issuing a naming query requesting a current address of the correspondent node (Comstock, col. 5, lines 38-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a binding update. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

The combination of Ishiyama, Kim and Comstock do not teach the use of a binding update failure.

However, Kempf teaches the method wherein the mobile node performs, in response to issuing the first binding update, the further steps of: registering a binding update failure with regard to the first binding update issued to the correspondent node at the first correspondent node address (Kempf, page 5, paragraph 97).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama, Kim and Comstock in view of Kempf in order to enable the use of a binding update failure. One would be motivated to do so in order

to enable a correspondent node to authenticate the binding update by examining the message authentication code using the shared key.

32. Claims 14 and 24 does not teach or define any new limitations above claim 4 and therefore is rejected for similar reasons.

33. Claims 5, 15 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Kim in view of Comstock in view of Kempf and further in view of Karagiannis et al. (U.S. 2003/0018810).

34. With respect to claim 5, Ishiyama teaches the invention described in claim 4, including a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim do not teach the use of a binding update.

However, Comstock teaches the method further comprising: issuing a naming query requesting a current address of the correspondent node (Comstock, col. 5, lines 38-56).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a binding update. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

The combination of Ishiyama, Kim and Comstock do not teach the use of a binding update failure.

However, Kempf teaches the method wherein the mobile node performs the further steps of: registering a binding update failure with regard to the first binding update issued to the correspondent node at the first correspondent node address (Kempf, page 5, paragraph 97).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama, Kim and Comstock in view of Kempf in order to enable the use of a binding update failure. One would be motivated to do so in order

to enable a correspondent node to authenticate the binding update by examining the message authentication code using the shared key.

The combination of Ishiyama, Kim, Comstock and Kempf does not explicitly teach issuing a naming query requesting the address of a node.

However, Millet teaches receiving a naming query response to the naming query including a second correspondent node address for the correspondent node that differs from the first correspondent node address (Millet, col. 10, lines 22-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama, Kim, Comstock and Kempf in view of Millet in order to enable issuing a naming query requesting the address of a node. One would be motivated to do so in order to enable address translation systems for mapping IP addresses of the mobile nodes to globally unique IP addresses available on a network where mobile nodes temporarily attach.

The combination of Ishiyama, Kim, Comstock and Kempf do not teach sending a second binding update.

However, Karagiannis teaches the method further comprising performing, by the mobile node, steps of: issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address (Karagiannis, page 17, paragraph 180).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama, Kim, Comstock and Kempf in view of Karagiannis in order to enable the use of a second binding update. One would be motivated

to do so in order to enable a mobile node to synchronize a handoff with a correspondent node.

35. Claims 15 and 25 does not teach or define any new limitations above claim 5 and therefore is rejected for similar reasons.

36. Claims 9, 19 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishiyama in view of Kim in view of Comstock and further in view of Millet (U.S. 6,434,627).

37. With respect to claim 9, Ishiyama teaches the invention described in claim 2, including a method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes a first address to a second address, the second address being different than the first address, the method comprising performing, by the mobile node, the steps of: registering the second address, for the mobile node, with an authoritative name server (Ishiyama, col. 7, line 61 – col. 8, line 14) without using a home agent (Ishiyama, col. 6, line 60 – col. 7, line 6), wherein the registering step comprises: specifying the second address for the mobile node (Ishiyama, col. 7, line 64 – col. 8, line 6).

Ishiyama does not explicitly teach a method of ensuring the second address will not be cached within non-authoritative name servers.

However, Kim teaches specifying a supplementary value that ensures the second address will not be cached within non-authoritative name servers (Kim, col. 7, lines 19-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ishiyama in view of Kim in order to enable a method of ensuring the current address will not be cached within non-authoritative name servers. One would be motivated to do so in order to facilitate the correspondent node delivering packets directly to the current care-of address of the mobile host.

The combination of Ishiyama and Kim do not teach the use of a binding update.

However, Comstock teaches the method further comprising: issuing a naming query requesting a current address of the correspondent node, before receiving a response to the first binding update (Comstock, col. 5, lines 38-56); issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address (Comstock, col. 4, line 66 – col. 5, line 7).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama and Kim in view of Comstock in order to enable the use of a binding update. One would be motivated to do so in order to facilitate the changing of a computing device's point of attachment to the Internet.

The combination of Ishiyama, Kim and Comstock does not explicitly teach issuing a naming query requesting the address of a node.

However, Millet teaches receiving a naming query response to the naming query including a second correspondent node address for the correspondent node; determining that

the second correspondent node address differs from the first correspondent node address (Millet, col. 10, lines 22-51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Ishiyama, Kim and Comstock in view of Millet in order to enable issuing a naming query requesting the address of a node. One would be motivated to do so in order to enable address translation systems for mapping IP addresses of the mobile nodes to globally unique IP addresses available on a network where mobile nodes temporarily attach.

38. Claims 19 and 29 do not teach or define any new limitations above claim 9 and therefore are rejected for similar reasons.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner 10804400

should be directed to Alicia Baturay whose telephone number is (571) 272-3981. The examiner can normally be reached at M-Th 7am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Pwu can be reached on (571) 272-6798. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Alicia Baturay
April 28, 2009

/Jeffrey Pwu/

Supervisory Patent Examiner, Art Unit 2446